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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,495	09/21/2006	Marcus Karel Sipkema	0470-050862	4849

7590 11/18/2008
Webb Ziesenheim Logsdon Orkin & Hanson
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818

EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2614

MAIL DATE	DELIVERY MODE
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11/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,495

Applicant(s)

SIPKEMA ET AL.

Examiner

Brian Ensey

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 65-74 is/are allowed.
- 6) ☒ Claim(s) 45, 47, 48 and 54-64 is/are rejected.
- 7) ☒ Claim(s) 46 and 49-53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/4/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(c) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not

necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

The disclosure is objected to because of the following informalities: Page 1, lines 3 and 4 state "...according to the precharacterizing clause of claim 1" and lines 26 and 27 state "... mentioned in the preamble, characterized by the characterizing measures of claim 1". Since the claims may change during prosecution, these statements should be deleted from the specification.

Appropriate correction is required.

The disclosure is objected to because of the following informalities: The applicant should be consistent in naming element 1': See page 4, line 31 "connection 1'" and page 13, line 24 "spectacles 1'".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 45, 47, 48, 57-59, 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwicker et al. U.S. Patent No. 4,773,095 in view of Feng et al. U.S. Patent No. 6,222,927.

Regarding claim 45, Zwicker discloses a hearing aid/spectacles combination comprising a spectacle frame (6) and a first reproduction unit (35), wherein the spectacle frame has a first spectacle arm (10) with a microphone array (M1', M2'), the microphone array is equipped to pick up a sound signal and to transmit a processed signal produced on the basis thereof to the first reproduction unit, and the first reproduction unit is equipped to convert the processed signal into a processed sound signal, wherein the hearing aid/spectacles combination comprises: a sound registration module (13',14') that comprises the microphone array; a beam forming module for forming a direction-dependent processed signal (15',16); a reproduction adaptation module (33) for adapting a reproduction characteristic of the processed sound signal produced by

the first reproduction unit; a reproduction module (35) that comprises the first reproduction unit (See Figs. 1 and 2 and col. 2, lines 43 to col. 3, line 21, specifically col. 3, lines 9-13 where a single module may be divided into individual modules). Zwicker does not expressly disclose a reproduction control module for controlling a reproduction characteristic of the processed sound signal produced by the first reproduction unit, and, in that the beam forming module and the reproduction adaptation module are based on digital techniques. However, Feng teaches a digital circuit for beamforming a specific sound (See col. 2, lines 55-61) comprising multiple microphone inputs in the form of spectacles (See Fig. 4) and a reproduction control module for controlling a reproduction characteristic of the processed sound signal produced by the first reproduction unit (30 or 130, See col. 9, lines 8-32). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the summer (5) of Zwicker with the digital control module of Feng to generate a characteristic signal which is representative of the desired acoustic signal during localization (See Feng col. 2, lines 52-54).

Regarding claim 47, the combination of Zwicker in view of Feng further discloses the beam forming module and the reproduction adaptation module are accommodated in a processing unit (30, 130, Feng).

Regarding claim 48, the combination of Zwicker in view of Feng further discloses the sound registration module, the processing unit and the reproduction module are equipped for wireless communication with one another (See Feng col. 9, lines 45-48).

Regarding claim 57, the combination of Zwicker in view of Feng further discloses the reproduction control module comprises a separate control unit for generating reproduction control signals (See Feng Fig. 4).

Regarding claim 58, the combination of Zwicker in view of Feng further discloses the beam forming module and the reproduction adaptation module are equipped to store at least one preferred setting memory, See Feng col. 9, lines 21-24).

Regarding claim 59, the combination of Zwicker in view of Feng further discloses the reproduction module comprises a digital/analogue converter, an output amplifier, connected to the digital/analogue converter, and an earphone connected to the output amplifier (See Feng Fig. 2).

Regarding claim 63, the combination of Zwicker in view of Feng further discloses a second spectacle arm that is of identical construction to the first spectacle arm, as well as a second reproduction unit that is of identical construction to the first reproduction unit (See Zwicker Fig. 3).

Regarding claim 64, the combination of Zwicker in view of Feng further discloses a hearing aid system comprising a hearing aid/spectacles combination and at least one of a mobile telephone, personal audio equipment and a personal information management system (See Feng Fig. 4a and col. 9, lines 30-32).

Claims 54-56 and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Zwicker in view of Feng as applied to claim 45 above, and further in view of Krokstad et al. U.S. Patent No. 5,276,739.

Regarding claim 54, the combination of Zwicker in view of Feng disclose a hearing aid as claimed including a beam forming module (See Feng col. 2, lines 55-61). The combination of Zwicker in view of Feng does not expressly disclose the reproduction adaptation module comprises an equaliser/compressor that is equipped to process frequency and amplitude of a

signal received from the beam forming module. However, the use of compressors and equalizers in hearing aids is well known in the art and Krokstad teaches a digital hearing aid comprising a compressor (33) and equalizer (34) (See Fig. 4a and col. 6, lines 16-32). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to include the well known structure of a compressor and equalizer as taught by Krokstead in the hearing aid of the combination of Zwicker in view of Feng for feedback suppression and cancellation (See abstract).

Regarding claim 60, the combination of Zwicker in view of Feng disclose a hearing aid as claimed. The combination of Zwicker in view of Feng does not expressly disclose the reproduction module also comprises an equaliser and a compressor. However, the use of compressors and equalizers in hearing aids is well known in the art and Krokstad teaches a digital hearing aid comprising a compressor (33) and equalizer (34) (See Fig. 4a and col. 6, lines 16-32). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to include the well known structure of a compressor and equalizer as taught by Krokstead in the hearing aid of the combination of Zwicker in view of Feng for feedback suppression and cancellation (See abstract).

Regarding claims 55, 56, 61 and 62, the combination of Zwicker in view of Feng disclose a hearing aid as claimed. The combination of Zwicker in view of Feng does not expressly disclose the compressor is provided with a compression function with optimised response time and decay time constants and is provided with a multi-channel frequency-dependent compression function. However, the use of compressors and equalizers in hearing aids is well known in the art and Krokstad teaches a digital hearing aid comprising a compressor (33) and equalizer (34) with

optimised response time and decay time constants and is provided with a multi-channel frequency-dependent compression function (See Fig. 5a and 5b and col.9, line 52 to col. 7, line 44).

Allowable Subject Matter

Claims 65-74 are allowed.

Claims 46 and 49-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Independent claim 65 identifies the uniquely distinct feature of a reproduction control module which stores different function scenarios and based on an input selection, assigns one or more of the function modules to one or more components based on the input selection in combination with all the disclosed limitations of claim 65. The prior art does not anticipate or render the claims obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:00 AM - 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni can be reached on 571-272-7505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, Va. 22313-1450

Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".
Hand-delivered responses should be brought to:

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Randolph Building
401 Dulany Street
Arlington, VA 22314

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/Brian Ensey/
Primary Examiner, Art Unit 2614
November 14, 2008